DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: SOUTH POND	Lake Area (ha):	50.06
Town: STARK	Maximum depth (m):	28.9
County: Coos	Mean depth (m):	13.3
River Basin: Connecticut	Volume (m^3) : 66	62000
Latitude: 44°35'34" N	Relative depth:	3.6
Longitude: 71°21'41" W	Shore configuration:	1.24
Elevation (ft): 1115	Areal water load (m/yr):	9.51
Shore length (m): 3100	Flushing rate (yr ⁻¹):	0.70
Watershed area (ha): 725.2	P retention coeff.:	0.56
<pre>% watershed ponded: 2.9</pre>	Lake type: natural	w/dam

BIOLOGICAL:	8 March 1994	12 August 1993
DOM. PHYTOPLANKTON (% TOTAL) #	SYNURA 95%	DINOBRYON 70%
#:	2	CHRYSOSPHAERELLA 10%
#:	3	
PHYTOPLANKTON ABUNDANCE (cells/mL		105
CHLOROPHYLL-A (µg/L)		1.78
DOM. ZOOPLANKTON (% TOTAL) #	CALANOID COPEPOD 53%	HOLOPEDIUM 25%
#:	2	ACTINOPHRYS 25%
#:	3	
ROTIFERS/LITER	4	1
MICROCRUSTACEA/LITER	13	9
ZOOPLANKTON ABUNDANCE (#/L)	17	16
VASCULAR PLANT ABUNDANCE		Scattered
SECCHI DISK TRANSPARENCY (m)		9.7
BOTTOM DISSOLVED OXYGEN (mg/L)	4.6	7.7
BACTERIA (E. coli, #/100 ml) #	L	
#:	2	
#.	3	

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 7.0 Hypolimnion volume (m³): 2750500 Anoxic volume (m³): None

CHEMICAL:			SOUTH PON	1D	
	8 March 1994		12 August 1993)3
DEPTH (m)	10.0	20.0	2.5	8.0	19.5
pH (units)	6.3	6.2	6.7	6.5	6.1
A.N.C. (Alkalinity)	3.9	4.3	2.8	3.1	4.2
NITRATE NITROGEN	0.11	0.12	< 0.02		0.08
TOTAL KJELDAHL NITROGEN	0.17	< 0.10	0.21	0.15	0.13
TOTAL PHOSPHORUS	<0.001	0.002	0.006	0.005	0.004
CONDUCTIVITY (µmhos/cm)	29.0	29.5	26.3	26.9	27.8
APPARENT COLOR (cpu)	8	14	7	10	12
MAGNESIUM			0.35		
CALCIUM			2.5		
SODIUM			1.2		
POTASSIUM			< 0.40		
CHLORIDE	< 2	< 2	< 3		< 3
SULFATE	5	5	5		5
TN : TP			35		53
CALCITE SATURATION INDEX			3.8		

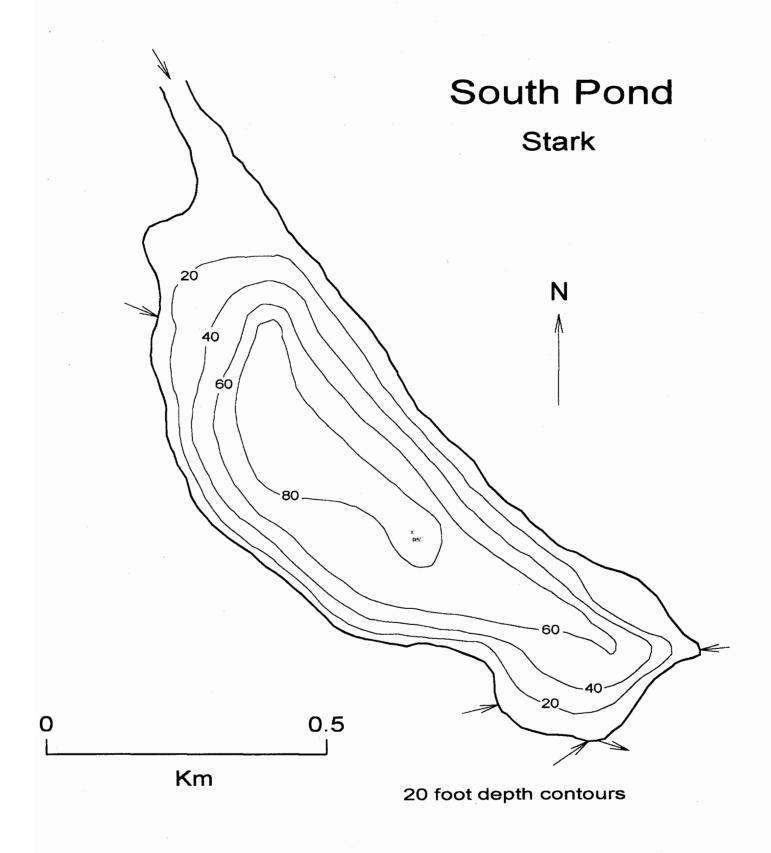
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1993

D.	ο.	S.D.	PLANT	CHL	TOTAL	CLASS
	0	0	1	0	1	Oligo.

COMMENTS:

- A.K.A. Percy pond; sometimes designated South Ponds and includes the northern section which we call North Pond.
- 2. This pond was previously surveyed and classified in 1981. There was no change in trophic points and little change in water quality.
- 3. This is a relatively steep-sided oligotrophic lake with colorless water and excellent water clarity.
- 4. Both phytoplankton and zooplankton counts were low, typical of nutrient-poor oligotrophic waters.
- 5. The wholewater phytoplankton were dominated by <u>Merismopedia</u> (35%) and <u>Aphanocapsa</u> or <u>Aphanothece</u> (20%).
- 6. This pond is located in the White Mountain National Forest. There is a recreational area at the northern end of the pond, but most of the shoreline is undeveloped.



FIELD DATA SHEET

LAKE: SOUTH POND TOWN: STARK

DATE: 08/12/93 WEATHER: MOSTLY SUNNY; LT. BREEZE; 85F

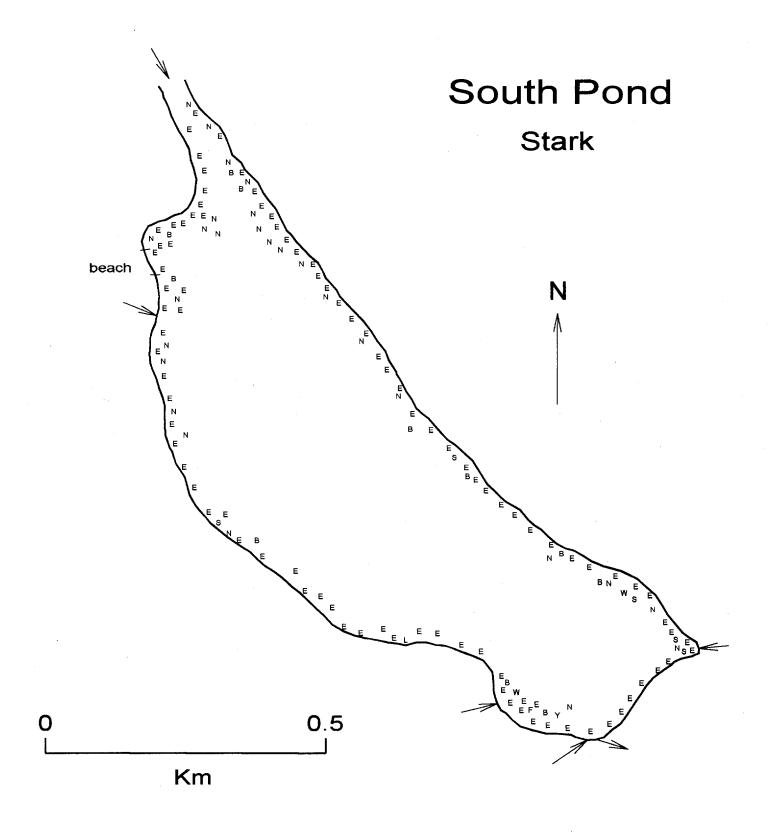
DEPTH (M)	TEMP	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	21.5	8.7	96 %
1.0	21.5	8.6	95 %
2.0	21.4	8.6	95 %
3.0	21.3	8.7	96 %
4.0	21.0	8.6	95 %
5.0	20.5	8.9	96 %
6.0	17.3	10.1	104 %
7.0	14.5	10.5	101 %
8.0	11.2	10.7	96 %
9.0	9.1	10.6	90 %
10.0	7.0	10.0	82 %
11.0	5.9	9.8	75 %
12.0	5.3	9.4	73 %
18.0	4.5	8.6	65 %
20.0	4.2	8.3	63 %
22.0	4.2	8.2	62 %
24.0	4.1	8.0	61 %
27.5	4.1	7.7	58 %
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SECCHI DISK (m): 9.7 COMMENTS:

BOTTOM DEPTH (m): 27.9

TIME: 1000

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

LAK	E: SOUTH POND	TOWN: STARK	DATE: 08/12/93	
Key	PLANT	NAME	ABUNDANCE	
	GENERIC	COMMON		
S	Sparganium	Bur reed	Sparse	
E	Eriocaulon septangulare	Pipewort	Scat/Common	
N	Nymphaea	White water lily	Scattered	
U	Utricularia	Bladderwort	Sparse	
В	Brasenia schreberi	Water shield	Sparse	
W	Potamogeton	Pondweed	Sparse	
Y	Nuphar	Yellow water lily	Sparse	
F	Nymphoides cordatum	Floating heart	Sparse	
L	Lobelia dortmanna	Water lobelia	Sparse	
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OVERALL ABUNDANCE: Scattered

GENERAL OBSERVATIONS:

- 1. Pipewort was around most of the shoreline but the overall rating is "scattered" because of the sparse growth habit of pipewort.
- 2. Only two <u>Nuphar</u> plants were observed in the entire survey.